

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (amended) A particulate filter for an internal combustion engine comprising:

a microwave source generating microwaves;

microwave-absorbing materials to absorb said microwaves and generate  
5 heat; ~~and~~

a particulate trap, having a monolithic honeycomb construction, trapping particulates generated by the engine, said particulate trap heated by said microwave-absorbing materials to burn off said particulates; and

wherein said microwave absorbing material is applied to the surface of the  
10 particulate trap as axial bands distributed along channels of said particulate trap.

2. (amended) The particulate filter of Claim 1 wherein said microwave absorbing material is further configured as an end plug.

3. (canceled)

4. (amended) The particulate filter of Claim 1 wherein said microwave absorbing material is further deposited in substantially linear fashion along the length of the channels of said particulate trap.

5. (original) The particulate filter of Claim 1 wherein said microwave absorbing material is silicon carbide.

6. (original) The particulate filter of Claim 1 wherein said particulate tap is comprised of microwave transparent material.

7. (amended) The particulate filter of Claim 6 wherein said microwave transparent material is ~~cordierite~~ cordierite.

8. (amended) A method of regenerating a particulate trap having a monolithic honeycomb structure comprising:

- generating microwave radiation; and  
discretely depositing microwave-absorbent material in linear fashion along  
5 the walls of the particular trap; and  
absorbing microwaves with said microwave-absorbent material to generate heat to burn particulates in the particulate trap.

9. (canceled)

10. (original) The method of Claim 8 further comprising the step of configuring microwave-absorbent material as end plugs in the particulate trap.

11. (original) The method of Claim 8 further comprising the step of controlling the temperature of the particulate trap by controlling the microwave radiation.

12. (amended) A system for removing particulates in a particulate trap comprising:

- a microwave power source;  
a microwave antenna coupled to said power source for generating  
5 microwaves;

a microwave wave guide operatively coupled to said microwave antenna to guide said microwaves; and

microwave-absorbent material ~~located in~~ discretely applied on inner surfaces of said particulate trap, wherein said microwaves are incident upon said microwave-absorbent material to generate heat to burn off particulates located in said particulate trap, and wherein said particulate trap is substantially transparent to microwaves.

13. (original) The system of Claim 12 further comprising a diesel engine coupled to said particulate trap, wherein said diesel exhaust propagates through said particulate trap.

14. (amended) A method of initiating regeneration in a monolithic honeycomb particulate trap comprising the steps of:

locating microwave-absorbing material as discrete linear segments on the surfaces of channels in the honeycomb of ~~in the particulate trap in areas that~~

5 ~~particulates build up~~;

generating microwaves;

absorbing microwaves with the microwave absorbing material; and

controlling the microwaves to initiate a burn-off of particulates.